NWB Annual Report **Year being reported:** 2018

License No: 1BR-SIM1520 **Issued Date:** August 17, 2015
Expiry Date: August 16, 2020

Project Name: CAM-D Simpson Lake Long Term Monitoring

Licensee: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Contaminated Sites

Mailing Address:
PO Box 2200
Iqaluit NU
X0A 0H0

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

N/A

General Background Information on the Project (*optional):

CAM-D Simpson Lake, an intermediate Distant Early Warning (DEW) Line site, is located on the Boothia Peninsula, approximately 120 km from Taloyoak, 100 km from Gjoa Haven, and 80 km from Kugaaruk. The DEW Line site was constructed in 1957 and abandoned in 1963.

Remediation of the CAM-D site occured between 2010 and 2012. A non-hazardous waste landfill (NHWL) was constructed to contain non-hazardous material. In 2011, 4 groundwater monitoring wells were installed around the perimeter of the NHWL.

As per departmental commitments to monitor the NHWL post-closure, a long term monitoring (LTM) program was initiated at CAM-D in 2012 and includes visual inspection, groundwater sampling, soil sampling (as required), and natural environment monitoring. Refer to the *CAM-D (Simpson Lake) Long Term Monitoring Plan (2010)* for additional information.

Years 1, 3, 5, and 7 took place in 2012, 2014, 2016, and 2018 respectively. CIRNAC was on site on August 16, 2018. The next LTM event (year 9) is scheduled for the fall of 2020 as an additional LTM event was added to the LTM Plan in 2016 to monitor deterioration observed at the northern corner of the NHWL. Future events will occur in 2022, 2024, 2026, and 2036.

Licence Requirements: the licensee must provide the following information in accodance with

Part B | Item 1

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s): Monitoring Wells at the NHWL (See GPS Coordinates Page)
Surface Water Sample (SW1)

Water Quantity:		
	1/day	Quantity Allowable Domestic (cu.m)
	<0.05	Actual Quantity Used Domestic (cu.m)
	0	Quantity Allowable Drilling (cu.m)
	0	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- [x] Solid Waste Disposal
- [ ] Sewage
- [ ] Drill Waste
- [ ] Greywater
- [ ] Hazardous
- [ ] Other:

Additional Details:

CIRNAC was onsite in 2018, but all four groundwater monitoring wells were frozen and no samples were collected during the 2018 site visit. One sample of surface water (SW1) and one duplicate (SW2) were collected from a depression north of MW03 that appeared to received runoff originating from the Non-Hazardous Waste Landfill (NHWL) cap. A total of 4 L of water was collected for the sample and the duplicate.

Monitoring activities were conducted within a single day and was based out of Gjoa Haven, NU so no camp was required. Solid wastes (packaging, paper towels, paper, kimwipes, filters, Teflon tubing) generated (< 0.5 m3) were collected and removed from the site at the completion of monitoring activities.

Refer to *CAM-D (Simpson Lake) Lake Long Term Monitoring Plan (2010)* and the *CAM-D 2018 LTM Report* for details.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: No spills (as reported to the Spill Hot-line)
Date of Spill: N/A
Date of Notification to an Inspector: N/A
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

N/A

Revisions to the Spill Contingency Plan

No Spill Contingency Plan (SCP) submitted or approved

Additional Details:

N/A

Revisions to the Abandonment and Restoration Plan

N/A - not applicable

Additional Details:

N/A

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

No progessive reclamation work was undertaken in 2018.

As per the *CAM-D (Simpson Lake) Long Term Monitoring Plan (2010)* and the additional LTM event added to the LTM Plan in 2016 to monitor deterioration observed at the northern corner of the NHWL, the next LTM event (Year 9) is scheduled for the fall of 2020 . Future LTM events are scheduled for 2022, 2024, 2026, and 2036 (years 11, 13, 15, and 25 respectively).

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached

Additional Details:

Additonal details regarding water sources can be found in the *CAM-D (Simpson Lake) Long Term Monitoring Plan (2010).*

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Not Applicable (N/A)

Additional Details:

Remediation was completed in 2012 and the only structure remaining at the site is the NHWL. No waste was deposited on site in 2018. Any solid waste generated is removed from the site at the completion of LTM activities.

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board

Additional Details: (date of request, analysis of results, data attached, etc)

N/A

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board

Additional Details: (Attached or provided below)

N/A

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC

Additional Details: (Dates of Report, Follow-up by the Licensee)

N/A

Any additional comments or information for the Board to consider

Physical observations of the NHWL conducted during the 2018 LTM event indicate that the NHWL at CAM-D is in marginal condition and is performing as designed to contain enclosed waste. While some features such as cracking and erosion on the northern corner of the NHWL continues to increase since the last LTM event (2016), no significant impact on NHWL stability has been observed to date. As per the monitoring report from 2016, continued monitoring at an increased frequency is still recommended at CAM-D to monitor if further deterioration is observed and if the NHWL stability remains intact.

Date Submitted:	March 15, 2018	
Submitted/Prepared by:	Rachel Theoret-Gosselin, CIRNAC	
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GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	° Deg	' Min	" Sec	° Deg	' Min	" Sec
Non-Hazardous Landfill Monitoring Wells (MW):						
MW01	68	35	35.29	91	58	50.51
MW02	68	35	37.35	91	58	48.83
MW03	68	35	37.54	91	58	54.21
MW04	68	35	35.58	91	58	56.07
Surface Water Sample (SW)						
SW1	68	35	33.43	91	57	10.21

GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	° Deg	' Min	" Sec	° Deg	' Min	" Sec
N/A						